

SULPHAMEZATHINE IN GONORRHOEA IN THE MALE

A REPORT ON FIFTY CASES OF GONOCOCCAL URETHRITIS

By A. G. JOHNSON, M.R.C.S., L.R.C.P.

Lt.-col., R.A.M.C.

There appear to have been no further observations upon the effect of sulphamezathine on gonorrhoea since the report of Macartney, Luxton, Smith, Ramsay and Goldman (1942). In this article, in which the compound is referred to by its former name of sulphamethazine, Macartney and his colleagues presented an extensive report on its use in lobar pneumonia. They also reported successful results in the treatment of meningococcal meningitis and finally referred briefly to the treatment of nine cases of gonococcal urethritis in the male by 2 grammes of this compound given every four hours for five days. The effects which were stated to have been satisfactory in the gonococcal cases were judged by the clinical course and by the results of various tests of cure including provocation by alcohol and gonococcal vaccine and by prostatic massage. The time of observation after treatment is not stated and no data are given either of the duration of the disease or of the presence or absence of complications before the start of treatment.

Comparative treatment

In this article a report is presented on the value of oral sulphamezathine in a series of fifty cases of simple acute gonococcal urethritis. These patients, all healthy adult male members of the Armed Forces, were treated in a military hospital; they were not confined to bed but were employed on light duties in and around the hospital throughout treatment.

Dosage.—Sulphamezathine, 2-(4-aminobenzenesulphonylamino) 4 : 6-dimethylpyrimidine, in the form of half-gramme tablets was given in a daily dose of 10 tablets (3 tablets at 6 a.m., 2 at 12 noon, 2 at 6 p.m., and 3 at 10 p.m.), to a total of 20 grammes in four days. Three parallel groups of fifty cases each were treated—one group with sulphathiazole, 15 grammes in three days; the second with sulphadiazine, 18 grammes in three days; the third with sulphapyridine, 20 grammes in five days. Irrigation or other treatment was not given. On the day of discharge from hospital all patients were free from urethral discharge and had either a clear urine or, in a few cases, a clear urine with fine threads.

The details of the immediate results obtained with sulphamezathine and with the other three sulphonamide compounds are set out in Table 1.

TABLE 1—IMMEDIATE RESULTS OF TREATMENT

SULPHONAMIDE COMPOUND USED	NUMBERS OF CASES AND DAY OF DISCHARGE FROM HOSPITAL							SUC- CESSFUL RESULTS	FAILURES
	4th	5th	6th	7th	8th	9th	10th to 12th		
Sulphadiazine ..	4	20	13	4	4	1	1	47	3
Sulphathiazole ..	10	12	14	5	5	—	—	46	4
Sulphapyridine ..	—	3	21	13	3	—	1	41	9
Sulphamezathine ..	1	10	11	5	4	1	2	34	16

Results of treatment

Immediate failures.—In all four groups there were some cases which showed little or no immediate response to treatment. Of the thirty-two cases noted as resistant, sixteen had been treated with sulphamezathine, nine with sulphapyridine,

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four with sulphathiazole and three with sulphadiazine. In other words 50 per cent of the total immediate failures are accounted for in the sulphamezathine series. (Table 2.)

Resistance to sulphonamides.—The further course of the cases classified as immediate failures presents some observations on sulphonamide group resistance and resistance to individual sulphonamides. Of the twenty-four patients in whom the infection proved resistant to the first sulphonamide compound, eleven only

TABLE 2—ANALYSIS OF IMMEDIATE FAILURES

	SULPHA- DIAZINE	SULPHA- THIAZOLE	SULPHA- PYRIDINE	SULPHA- MEZATHINE
Number of cases gonococcus negative but requiring further treatment	—	1	2	—
Number of cases gonococcus positive and resistant to other sulphonamides	2 + (1)	(1)	2	4 + (1)
Number of cases gonococcus positive, not resistant to other sulphonamides	—	—	4	8 + (1)
Number of cases with gonococcal complications	1	3	1	4
Totals	3	4	9	16

(The figures in brackets also appear in the column for Complications, below.)

failed to react to further treatment with a different compound, and one of these eventually responded to a fourth course of a sulphonamide. One patient made an apparently successful recovery only after he had developed an epididymo-orchitis. The remaining nine resistant cases were finally treated by hyperthermy.

The examination of daily urethral smears from the patients in the resistant and the responsive categories gave full support to the observation that the third day is the critical one in the attainment of a successful result ; if gonococci are still present at that time the subsequent progress on that particular course of treatment will almost certainly be unsatisfactory.

Complications.—In the report of nine cases treated with sulphamezathine by Macartney, Luxton, Smith, Ramsay and Goldman there is not any mention of gonorrhoeal complications occurring during or after the treatment. In the present series there were four such complications : two of acute arthritis, one mild and transient, the other severe, and two of follicular infection with associated infiltration in the urethra ; one of these required prolonged treatment and is noted as drug-resistant, the other responded immediately and satisfactorily to a short course of sulphathiazole. In the sulphathiazole series one patient developed an acute epididymo-orchitis on the second day of treatment but made a satisfactory recovery without further chemotherapy. The second patient developed conjunctivitis and severe and generalized arthritis on the third day ; the third patient, classified as drug-resistant, suffered from follicular infection with infiltration. In the sulphapyridine series the sole complication was an acute prostatitis on the second day of treatment. Similarly in the sulphadiazine series there was one complication only. This was an acute posterior urethritis occurring on the second day and finally requiring hyperthermy. In this comparison, although complications did occur more frequently in the cases treated with sulphamezathine than in those treated with the other drugs, the numbers are too few for any final conclusion to be arrived at.

Intolerance and toxic effects.—Not one serious toxic effect occurred in this trial but the following complaints were made and observed. With sulphamezathine,

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slight urticaria occurred in only one patient and in general this drug produced little or no unpleasant subjective sensations. With sulphadiazine, there were occasional headaches which were transient and did not interrupt treatment ; also one case of mild erythema which required no treatment. With sulphathiazole, there was one case of vomiting. With sulphapyridine, there were occasional headaches and other subjective symptoms only.

Relapse.—Further observations were carried out on all available of the apparently successful cases during a period of from three to six months from the end of treatment ; these are set out in Table 3. It may be noted in those cases where the end-result is known, that if the initial failures and the relapses are added together, the total failure rate for one course of treatment is, with sulphadiazine, 17 per cent ; with sulphathiazole, 16 per cent ; with sulphapyridine, 34 per cent ; with sulphamezathine, 42 per cent.

TABLE 3—RESULTS OF A THREE TO SIX MONTHS' " FOLLOW-UP " OF THE SUCCESSFUL CASES

	PASSED TESTS OF CURE	RELAPSED	UNKNOWN	FRESH INFECTION	TOTAL
Sulphadiazine ..	37	5	3	2	47
Sulphathiazole ..	40	4	1	1	46
Sulphapyridine ..	28	6	6	1	41
Sulphamezathine ..	26	3	5	—	34

Conclusions

Although the total number of cases is small, the results are sufficiently clear to show that in the dosage employed sulphamezathine is not so effective as the other three compounds in the treatment of acute gonorrhoea ; that sulphadiazine and sulphathiazole are both to be preferred to sulphapyridine is also clearly indicated.

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Syphilis in industry

Syphilis, even when infectious, is not spread by occupational contact. The syphilitic should be kept at his work and be given medical treatment rather than dismissed. Except for those who have neurosyphilis or cardiovascular syphilis and are engaged in hazardous work, there is no evidence that accidents in industry are caused more frequently by syphilitic employees. The use of the blood test as a guide for excluding those who may be dangerous in certain occupations is absurd and unsound. Moreover, there is not any relationship between blood tests and the infectiousness of syphilis. The refusal to employ any syphilitic creates a huge reservoir of unemployables who become a serious problem to a state ; they can scarcely be expected to show great interest in their apparently purposeless medical treatment. Much of the credit for the intelligent handling of this problem is due to sound medical policy.—*Venereal Disease Information*, Washington, June, 1943.